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# NEW AND LITTLE KNOWN MESITIINAE FROM SOUTHERN EUROPE AND AFRICA (HYMENOPTERA, BETHYLIDAE)

by

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Abstract

Of the South European and African Mesitiinae (Bethylidae) 19 species and subspecies are listed from new localities in the Mediterranean and Ethiopian regions, and from Southern U.S.S.R. Six new species are described: *Anaylax pardoi* sp. n. (♀), *Clytrovorus suarezi* sp. n. (♀), *Metrionotus bekkeri* sp. n. (♂), *Sulcomesitius grahamensis* sp. n. (♀), *S. zambiensis* sp. n. (♂), and *Heterocoelia nikolskajae* sp. n. (♀ ♂).

## Introduction

In spite of the increasing number of known Mesitiinae species of the world, a raise from 35 (Kieffer, 1914) to 175 (Móczár, 1984), collections still yield numerous specimens which prove to be new species or to represent new locality data. The present species were mostly collected in the Mediterranean region and in the southern territories of the U.S.S.R., and partly in the Ethiopian region.

I received extensive help from many colleagues, to whom I express my sincere thanks: C. van Achterberg (Leiden, the Netherlands), M. Koponen (Helsinki, Finland), G. Pagliano (Torino, Italy), J. Suárez (Almeria, Spain), V. I. Tobias (Leningrad, U.S.S.R.), and H. Townes (Gainesville, Florida, U.S.A.).

### **Anaylax pardoi** sp. n.
(figs. 1—3)

Female. — Length 4 mm. Black, mandibles and clypeus (except its basis), lower side of scape, anterior joint of antennae, anterior tibiae partly, tarsal segments, both ends of femora yellowish brown, rest brown; posterior margin of pronotum, abdominal tergites dark reddish translucent, sometimes last abdominal segments partly yellowish brown. Wings short, reaching at most to posterior margin of propodeum, veins light brown. Body very sparsely covered with light and short hairs.

Head elongated, remarkably longer than broad (42 : 34), strongly broadened behind eyes (viewed from above), nearly parallel just behind eyes, lateral corners rounded (fig. 1), posterior margin weakly arched, occipital carina very narrow; surface of head smooth, polished and finely alutaceous with scattered deep punctures (fig. 1) and with a row of denser punctures along eyes, frontal sulcus narrow and short before antennal sockets (on some paratypes less developed); ocelli very small, situated in an acute angle, outer margins with a hardly visible deepening, ocelli separated from each other by half the distance to the nearest eye (6 : 12); eyes remarkably flat, elongated, distincly longer than broad (15 : 12), separated from mandibles by half their breadth (6 : 12) or by length of antennal joint 2; anterior margin of clypeus weakly arched, lateral sides parallel, surface raised into a sharp high longitudinal keel. Antennal joints except scape short, joints 2, 3, (fig. 1), and 13 at most twice as long as broad, joints 4, 7—11 of equal length, and 5 and 6 distinctly shorter than broad, length (and breadth) proportions of antennal joints 1—13 = 15 (6): 6 (3): 4 (3): 3.5 (3.5): 3.5 (4): 3.5 (4): 4 (4): 4 (4): 4 (4): 4 (4): 4 (4): 3.5 (3): 6 (3).

Pronotum about as long as broad (22: 22—24), anterior corners rounded (fig. 1), posterior margin weakly arched, surface sculptured like head, longitudinal furrow absent. Mesonotum, scutellum smooth, shining, alutaceous with few punctures (fig. 2), parapsidal furrow not distinct, notaulices with sharp margins, gradually converging towards scutellum. Propodeum short, medially as long as half the transverse diameter (14 : 14), all carinae and areas present, only sublateral carinae weakly developed anteriorly (in one paratype also posteriorly on left side), sublateral area alutaceous, partly finely shagreened, shining medially (fig. 3), with a

short carina (fig. 2) and some wrinkles on antero-medial part, postero-lateral corners acute without a separate spine (fig. 3), sometimes tip slightly raised. Lateral side of propodeum with diagonal wrinkles. Episternum with a diagonal groove below tegulae.

Abdomen smooth, shining, tergite 2 alutaceous basally and polished with only some fine punctures (fig. 2), tergites 3—6 alutaceous.

Male. — Unknown.

Holotype: ♀, "Taurirt B. Sicar-Marruecos A. Pardo coll. vi.1973" (Hym. Typ. No. 3694 Zool. Dept., Hungarian Nat. Hist. Museum, Budapest). — Paratypes: 4 ♀ with the same locality and date (1 ♀, Hym. Typ. No. 3695 Hungarian Nat. Hist. Museum, Budapest; 1 ♀, coll. Suárez, Almeria, Spain; 1 ♀, Rijksmuseum van Natuurlijke Historie, Leiden; 1 ♀, British Museum, Natural History, London).

I name this species in honour of the collector, A. Pardo.

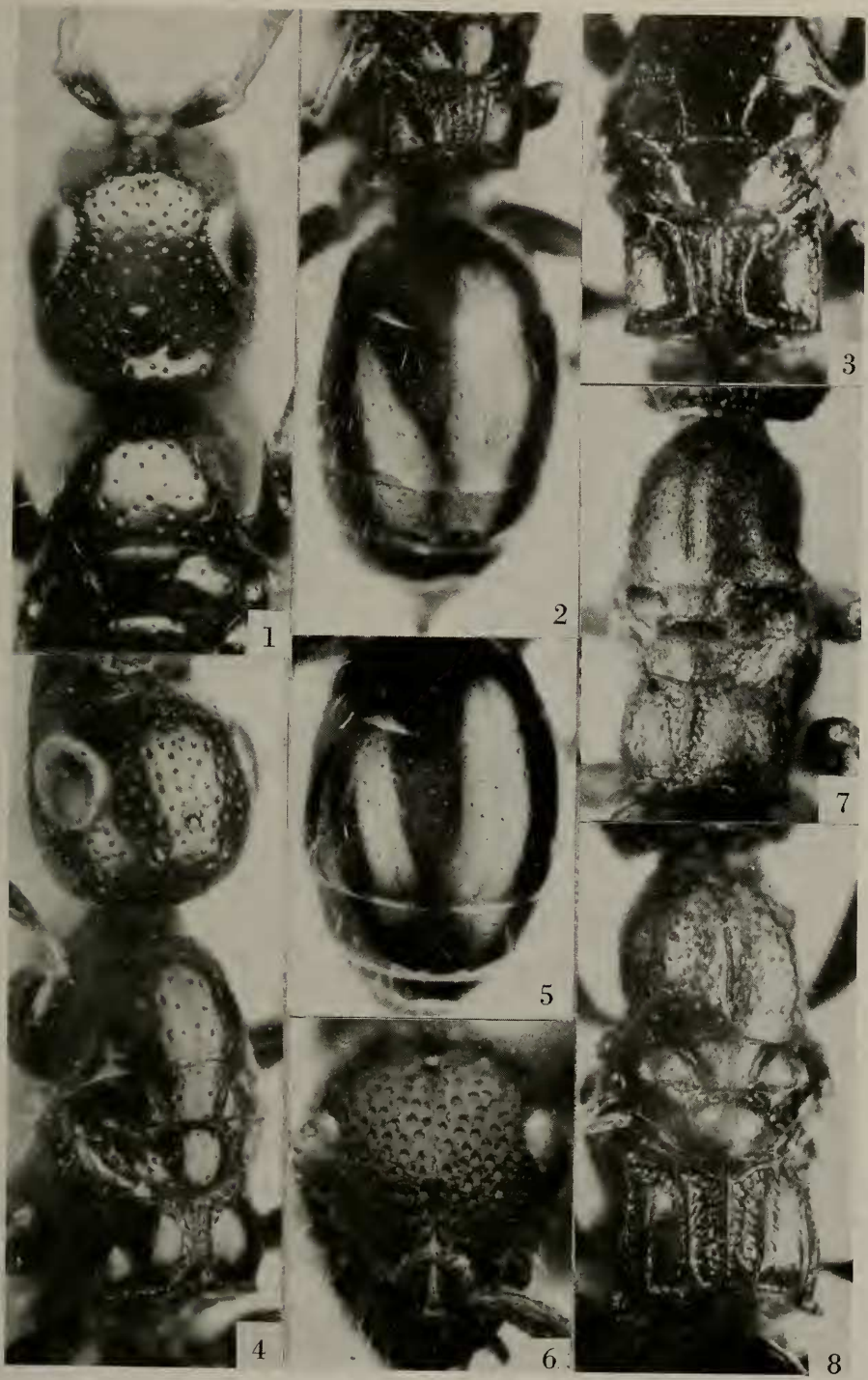
This species is related to *A. moczari* (Nagy, 1968) and *A. integer* (Kieffer, 1906) but differs chiefly by the head and pronotum, which is smooth, shining, and with scattered deep punctures (fig. 1), by the propodeum (fig. 3), by the fine punctures on tergite 2 (fig. 2), by the largely black colour, etc.

### Clytrovorus suarezi sp. n.
(figs. 4, 5)

Female. — Length 3—4 mm. Black, anterior half of clypeus and mandibles, lower side of antennal joints 1—3, pronotum except three black spots, mesonotum, tegulae and scutellum except black anterior part, central area and posterior vertical part of propodeum, trochanters, femora apically, tibiae basally and apically, as well as tarsal joints 1—3, brownish red, abdomen partly dark reddish translucent. In one paratype the three dark spots of the pronotum are largely fused, and the lateral parts of the mesonotum outside notaulices as well as scutellum largely black; in two other paratypes the brownish red colour extends over malar space, over the whole pronotum, mesonotum and scutellum; moreover, in a lighter paratype (Almeria), mandibles, nearly the entire thorax, lateral side of propodeum and tibiae yellowish red, only propodeal disc in lateral half and thorax below tegulae black. Wings short, reaching only to propodeum. Body covered with sparse short, white hairs.

Head elongated, distinctly longer than broad (47 : 41), strongly broadened and nearly parallel just behind eyes (viewed from above), lateral corners rounded (fig. 4), posterior margin weakly arched, surface smooth, polished and finely alutaceous with scattered deep punctures (fig. 4), and with a row of denser punctures along eyes, frontal sulcus short, developed only before antennal sockets; ocelli very small, situated in an acute angle, outer margins narrowly excised, ocelli situated nearer to each other than to nearest eye (8 : 12); eyes remarkably flat, elongated, distinctly longer than broad (17 : 14), separated from mandibles by a distance equaling length of antennal joint 2; anterior margin of clypeus arched, lateral sides parallel, surface raised longitudinally into a sharp, high medial keel. Antennal joints short, except joints 1, 2 and 13, which are at least twice as long as broad, joint 3, which is nearly one-and-a-half time as long as broad; joints 4—9 hardly longer than broad, 10—12 as long as broad; length (and breadth) proportions of antennal joints 1—13 = 18 (7): 7 (3.5): 5.5 (4): 5 (4.5): 5 (4.5): 5 (4.5): 5 (4.5): 5 (4.5): 5 (4.5): 4.5 (4.5): 4.5 (4.5): 4 (4): 7 (4).

Pronotum nearly as long as broad (24 : 25), anterior corners rounded (fig. 4), lateral sides only weakly, gradually diverging towards tegulae, posterior margin slightly arched, surface uniformly finely alutaceous and shining with more scattered deep punctures than on head, without a trace of longitudinal furrow. Mesonotum, scutellum alutaceous, shining, only with very few punctures (fig. 4), parapsidal furrow weakly developed, notaulices deeper, distinctly convergent towards scutellum. Propodeum remarkably short, as long as half the transverse diameter (15 : 15), central carina distinct, median carinae hardly developed, and hardly perceptible, discal carinae parallel medially but diverging anteriorly and also posteriorly over less than one-fifth of its length (fig. 4), sublateral carina absent, lateral and transverse carinae well developed posteriorly, sublateral area with foveae of rather larger size along anterior margin but with smaller ones along lateral and posterior margins, surface of sublateral areas moderately bending postero-laterally towards spines and sharply curved down along its whole lateral margin, because of this the lateral carinae lying conspicu-




Figs. 1—3. *Anaylax pardoi* sp. n., ♀. 1, head and pronotum; 2, scutellum, propodeum and abdomen; 3, scutellum and propodeum. Figs. 4—5. *Clytrovorus suarezi* sp. n., ♀. 4, head and thorax; 5, abdomen. Fig. 6. *Mesitius africanus africanus* Kieffer, ♀, head in frontal view. Fig. 7. *Clytrovorus horvathi* (Kieffer), ♀, thorax. Fig. 8. *Mesitius ghilianii* Spinola, ♀, thorax.

ously deeper. Lateral spine hardly distinct, tips slightly raised, lateral side of disc finely wrinkled diagonally, its basis granulated similar to episternum, latter with deep diagonal groove below tegulae.

Abdomen smooth, polished, tergite 1 with only few very fine, 2 with some fine and scattered punctures (fig. 5), tergite 2 basally, 3—6 finely alutaceous.

Male. — Unknown.

Holotype: ♀, "Taurirt B. Sicar-Marruecos A. Pardo coll. v.1973" (Hym. Typ. No. 3696 Hungarian Nat. Hist. Museum, Budapest). — Paratypes 17 ♀ : 2 ♀ with the same data (Hym. Typ. No. 3697—3698 Hungarian Nat. Hist. Museum, Budapest); 1 ♀, "La Joys Almeria J. Suárez leg. 2.iv.60", Spain (Hym. Typ. No. 3699, Budapest); 1 ♀, "Taurirt B. Sicar-Marruecos A. Pardo coll. 25.vi.1971" (Rijksmuseum van Natuurlijke Historie, Leiden); 1 ♀ with the same locality and collector, but data: "v.1972" (Hym. Typ. No. 3700, Budapest); 2 ♀ with the same data, but dated: "vi.1973" (coll. Suárez, Almeria, and Hym. Typ. No. 3701, Budapest); 8 ♀ with the same date, but dated: "v.1974" (2 ♀, British Museum, Natural History, London; 2 ♀, coll. Suárez, Almeria; 2 ♀, coll. Nagy-Argaman, Yaffo, Israel; 2 ♀, Hym. Typ. No. 3702—3703, Budapest) and 2 ♀ with the same data, but dated: "vi.1974" (coll. Suárez, Almeria, and Hym. Typ. No. 3704, Budapest).

I name this species in honour of the outstanding specialist of Mutillidae, Mr. Javier Suárez of Almeria, Spain.

This species is similar to *C. zavadili* (Hoffer, 1936), but differs by the shorter and obtuse spine of the propodeum, by the margin of the central area of the propodeum not being convergent anteriorly as well as posteriorly, by the lack of a small, rectangular fovea in this area, by the colour, etc.

This species is related to *C. horvathi* (Kieffer, 1906) (fig. 7) but differs mainly by the head and pronotum-mesonotum-scutellum not being granulated, by the propodeum without an acute spine, by the central area not being strongly broadened anteriorly and not parallel-sided posteriorly, by the surface of the sublateral area not gradually bending down towards lateral margin and spine, by the pronotum not having a deep and narrow longitudinal furrow (fig. 7), etc.

**Mesitius africanus africanus** Kieffer, 1906 (fig. 6)

*Mesitius africanus* Kieffer, 1906: 401 (♀).
*Mesitius africanus africanus*; Móczár, 1970a: 190, 192 (♀).

Specimens examined: 1 ♀, Zoco el Arba, Marruecos vi.1963 (Budapest); 1 ♀, San Roque, Cádiz, J. Ramirez, 7.ii.1976 (Budapest). 1 ♀; Cádiz, J. de Ferrer 7.ii.1976 (coll. Suárez, Almeria); 1 ♀, Algeciras, 15—22.iv.1926, Lindberg (Helsinki).

This species differs from *M. cameroni cameroni* Kieffer, 1906, chiefly by the only superficially punctured head (fig. 6), by the head being slightly shining instead of mat, by the sublateral area being scatteredly wrinkled and mat instead of striated and shining, etc.

It was reported from Morocco (Kieffer, 1906), Spain (Kieffer, 1908), France (Picard, 1932), and Algeria (Móczár, 1970a).

**Mesitius apterus** (Cameron, 1888)

*Epyris apterus* Cameron, 1888: 171.
*Mesitius apterus*; Móczár, 1970a: 191 (♀).
*Mesitius apterus*; Móczár, 1983: 203 (♀).

Specimens examined: 2 ♀, Zoco el Arba Marruecos, vi.1963, Spain (Budapest and coll. Nagy-Argaman).

This species is easy to distinguish from the related *M. szaboi* Móczár, 1970, by the longitudinal furrow before the antennae, by the distinctly concave lateral margin of the spoon-like keel of the clypeus, as well as by tergite 2 being without very fine scattered punctures.

It was reported from Gibraltar (Cameron, 1888) and Morocco, Jordan (Móczár, 1970a, 1983).

**Mesitius ghilianii** Spinola, 1851 (fig. 8)

*Mesitius ghilianii* Spinola, 1851: 73 (♀).
*Mesitius ghilianii*; Móczár, 1970a: 190, 194 (♀).

Specimens examined: 6 ♀, Taurirt (Beni Sicar): Marruecos, Melilla 7.vii. and 20.ix.1972, v.-24.vi.1974, Spain (4 ♀ Budapest and 2 ♀ coll. Suárez). — 1 ♀, Algeria, Buoira (= Bougie) 23.v.1981, leg. Boffa-Casale-Giachino-Risi-Scaramozzino (Budapest).

The above specimens correspond to those described from France (Móczár, 1970a: 190, 195) but the length varies between 4.2—6.5 mm; the

grooves of the ocelli are distinctly smaller than those in the French specimens and similar to the ones reported from Egypt (Móczár, 1983). In addition to the description: the surface of the sublateral areas (fig. 8) not shagreened nearly over its whole surface but only on its anterior half (1 ♀) and smoothly shining with only a very fine trace of striae nearly on its whole surface (5 ♀), pronotum not with fine but with distinct punctures (fig. 8), and length of head four-fifths of its breadth. These differences are not essential and fall within te variation of this species.

This species was reported before from Sicily (Spinola, 1851), Corsica (Marshall, 1874), Gibraltar (Cameron, 1889), Gallia (Dalla-Torre, 1898), Tunis, Algeria (Picard, 1932), Corfu (Nagy, 1969) and Egypt (Móczár, 1983).

### **Metrionotus egypticus** Móczár, 1974

*Metrionotus egypticus* Móczár, 1974: 174, 175 (♀).
*Metrionotus egypticus*; Móczár, 1983: 204 (♂ nov.).

Specimens examined: 1 ♀, Wadi Feran 4.iii.1935 and 1 ♀ Helwan 11.ii.1936, Egypt (Budapest).

This species is closely related to *Incertosulcus soikai* Móczár, 1970, from which it differs chiefly by the distinct and narrow longitudinal furrow of the pronotum, by length and breadth proportions of the pronotum (12 : 19, instead of 16 : 19), etc.

It was reported from Egypt (Móczár, 1974, 1983).

### **Metrionotus bekkeri** sp. n.
(figs. 9, 10)

Male. — Length 3.5 mm. Black, antennae, clypeus, mandibles, tegulae, legs and last abdominal segments yellowish brown, anterior half of mandibles, tarsal segments 1—3 yellowish, pronotum posteriorly, tergite 1 in anterior half, lateral side of abdomen dark reddish brown, translucent. Wings normally developed, fore wings hardly infuscated, veins and pterostigma brownish, yellowish only basally. Body sparsely covered with white hairs, antennae with suberect hairs, latter distinctly shorter than diameter of antennal joints.

Head one-fourth shorter than broad, remarkably broadened behind eyes (fig. 9), sides convergent (viewed from above), posterior margin nearly straight, occipital margin narrowly impressed; ocelli in a slightly acute angle POL : OOL = 4 : 5, outer margins of ocelli with shining grooves; head shagreened, only weakly shining with shallow, larger punctures (fig. 9), frontal sulcus developed from fore ocellus up to antennal sockets but interrupted medially; eyes remarkably small, hardly longer than broad, malar space as broad as the length of antennal joint 3, or mandibles separated from eyes by a distance of two-thirds length of eyes; anterior margin of clypeus nearly straight with obtuse lateral corners, sides parallel, surface raised into a sharp high keel medially. Antennal joints slender, 1 and 13 the longest, 3—7, as well as 8—10, and 11 and 12 of equal length, joints 3—7 hardly longer than 8—10, all joints at least twice as long as broad, the pedicel excepted, which is only 1.75 times as long as broad, length (and breadth) proportions of antennal joints 1—13 = 5 (3): 3.5 (2): 4 (2): 4 (2): 4 (2): 4 (1.6): 4 (1.5): 3.5 (1.2): 3.5 (1.2): 3.5 (1.2): 3 (1.2): 3 (1.2): 5 (1.2).

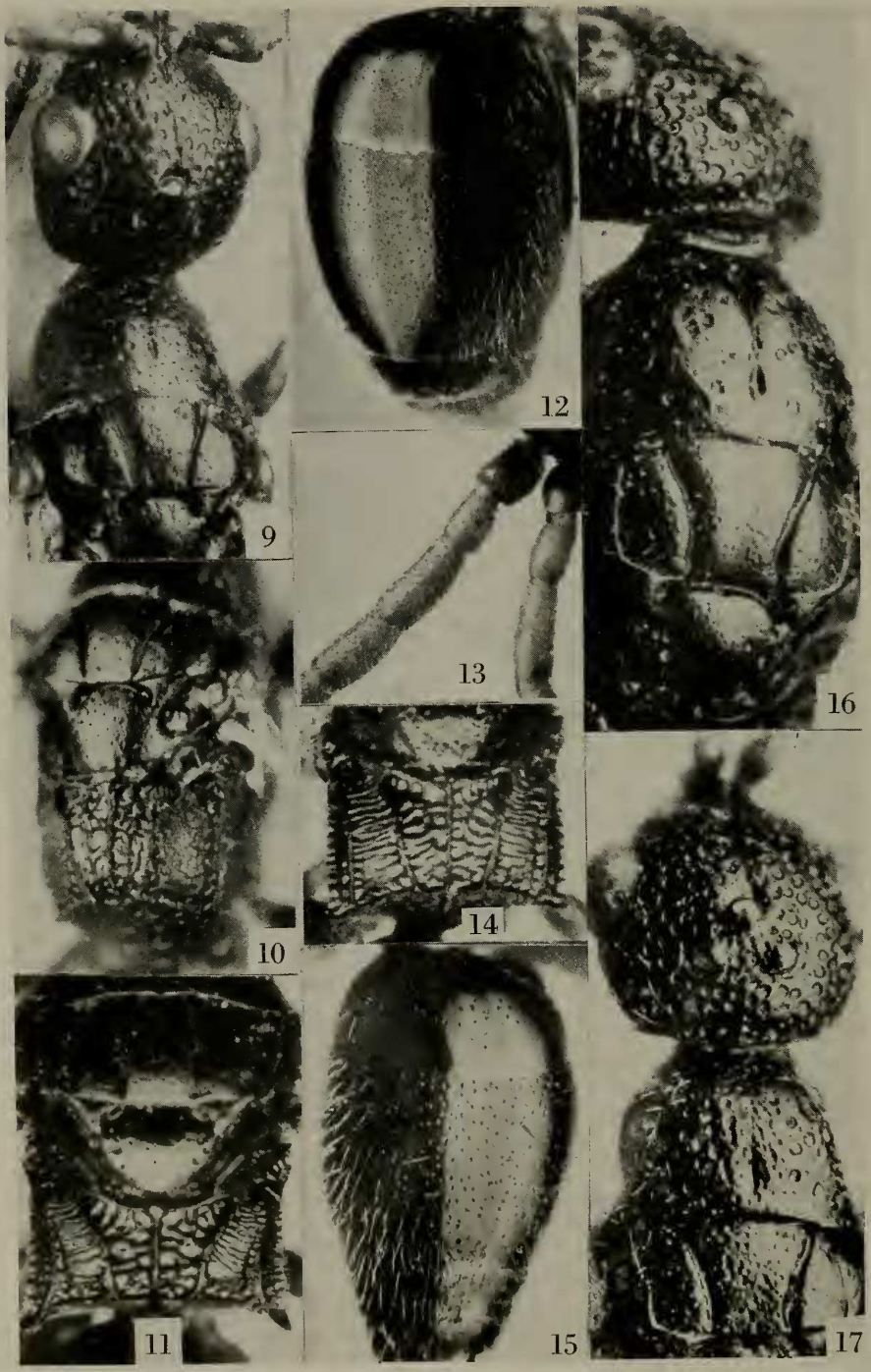
Pronotum hardly longer than three-quarters of its breadth (9 : 11), anterior corners slightly obtuse, lateral sides hardly convex medially and strongly diverging towards tegulae, posterior margin moderately arched, surface shagreened, hardly shining, with scattered larger but shallow punctures (fig. 9), longitudinal sulcus narrow, ending before posterior margin, mesonotum and scutellum shagreened, only moderately shining, with few fine and scattered punctures (figs. 9, 10), parapsidal furrow only in trace present, notaulices deep, gradually converging towards scutellum, longitudinal furrow absent. Propodeum longer than half its transverse diameter, central areas (fig. 10) well sculptured, sublateral areas granulated, not shining, surface of disc remarkably convex, postero-lateral corners lying conspicuously deep and slightly acute, their tips raised, practically without a distinct spine. Episternum shagreened below tegulae, behind transversal groove granulated laterоventrally.

Abdominal tergite 1 smooth, polished, without punctures, 2 shagreened basally, with very fine and scattered punctures medially and polished posteriorly.

Female. — Unknown.

Holotype: ♂, "Sarepta Bekker 66" (Leningrad).

I named this species in honour of its collector. This species is related to *M. zuluensis* (Móczár, 1971), from which it differs mainly by the antennae being without dense proclinate hairs, by




Figs. 9—10. *Metrionotus bekkeri* sp. n., ♂, 9, head, pronotum and mesonotum; 10, scutellum and propodeum. Figs. 11—17. *Heterocoelia nikolskajae* sp. n. 11, scutellum and propodeum (♀); 12, abdomen (♀); 13, first antennal joints (♂); 14, propodeum (♂); 15, abdomen (♂), 16, head, pronotum and mesonotum (♀); 17, head, pronotum and mesonotum (♂).

the pronotum having no distinct spine, by its larger size, by the ratio spine to length of propodeum being not 2 : 11, etc.

**Heterocoelia nikolskajae** sp. n.
(figs. 11—17)

Female. — Length 5.3 mm. Black, antennae (except the light brownish joints 6—13), anterior half of mandibles and clypeus, legs, except coxae brown basally, yellowish red, basal parts of clypeus and mandibles as well as tegulae, brown, hind femora and tibia yellowish brown, abdominal tergite 1, lateral side of 2 and apical segments posteriorly dark brownish red, translucent. Wings normal, fore wings only weakly brownish infuscated, veins brown. Body and eyes with sparse, white hairs.

Head as long as broad (28 : 28), distinctly broadened behind eyes, sides gradually convergent (viewed from above), occipital margin narrowly impressed; ocelli in a rectangle, posterior ocelli as far from each other as from nearest eye, POL : OOL = 5 : 6, outer margins with shining grooves; head with very dense, larger but not very deep punctures (fig. 16), spaces between punctures fused into more or less longitudinal wrinkles, surface shining, frontal sulcus well-developed above antennal sockets; eyes large and rather convex, elongated, three-quarters as broad as long (9 : 12), separated from mandibles by a distance of nearly two-thirds length of eyes (7 : 12): anterior margin of clypeus moderately arched with obtuse corners, raised into a sharp, high keel medially. Antennal joints rather slender, scape very long, distinctly longer than antennal joints 2 and 3 together, joints 2—3 twice as long as broad and distinctly longer than 4—12, all joints longer than broad except 3—5, which are as long as broad, length (and breadth) proportions of antennal joints 1—13 = 11 (4): 4 (2): 5 (2.4): 3.5 (3.5): 3.5 (3.5): 3.5 (3.5): 3 (2.5): 3 (2.5): 3 (2.5): 3 (2): 3 (2): 3 (2): 4 (2).

Pronotum about two-thirds as long medially (excluding collar) as broad in front (13 : 18), anterior corners rounded, lateral sides parallel and diverging from middle towards tegulae, posterior margin nearly straight and broadly impressed (fig. 16), surface smooth, shining with dense minute and few larger punctures in anterior half, longitudinal furrow narrow and deep, especially anteriorly. Mesonotum, scutellum smooth, shining with minute dense punctures (fig. 16), parapsidal furrow narrow and rather deep, notaulices broader and deeper with sharp margins, strongly converging in anterior half, parallel medially and diverging before posterior margin. Longitudinal furrow of mesonotum, as well as basal sulcus on scutellum, absent. Scutellum with some larger punctures laterally. Propodeum short, distinctly shorter medially than half its transverse diameter (10 : 12) (fig. 11), coarsely sculptured, all carinae present, lateral sides parallel, moderately diverging, beginning with spines, latter acute (viewed from above), truncate from the side, short, only about as long as one-third of length of propodeum medially (4 : 11). Lateral sides of disc along upper margin with a parallel wrinkle ending in vertical and postero-lateral edge of propodeum before spine. Sides of thorax rather coarsely sculptured, episternum with deep and broad groove below tegulae.

Abdomen smooth, tergites 1 and 2 polished, 1 with very fine punctures medially on dorsal side (fig. 12), 2 finely granulated basally, with fine and scattered punctures, except on side, and a small area medially in front of posterior margin, last tergites finely granulated with very fine punctures. Sternite 2 with scattered, deep and also minute punctures mixed with larger ones.

Male. — Length 3.6—3.9 mm. Coloration similar to female, but mandibles, clypeus and antennae entirely yellowish red, except apical brown tip of joint 13 and the more brownish coxae. Wings similar to female. Sparse white hairs of body longer than in female. Antennae with short, typical, proclinate hairs (fig. 13).

Head, ocelli correspond to female, POL : OOL = 4 : 5, sculpture of head finer, punctures smaller and shallower (fig. 17), spaces between punctures not forming longitudinal wrinkles, frontal sulcus shallower but also developed below fore ocellus, malar space narrower, only one-third as long as eye (3 : 9). Antennal joints remarkably slender, joint 3 1.75 times as long as 2 (fig. 13), joints 1 and 13, as well as 3—10 nearly of equal length, joints at least twice as long as broad, except pedicel, length (and breadth) proportions of antennal joints 1—13 = 6 (3): 3.5 (2.5): 5.5 (2.5): 5 (2.5): 5 (2.2): 5 (2): 5 (2): 5 (2): 5 (2): 5 (2): 4.4 (2): 4 (2): 6 (2) (after allotype).

Pronotum similar to female (8 : 12), surface moderately shining owing to rather dense smaller and few larger scattered punctures (fig. 17), and to finely shagreened interspaces; longitudinal furrow very shallowly developed anteriorly, in one paratype (of same locality as allotype) uniformly deep on its whole length, in other

paratype (Kondara) only posterior present. Mesonotum, scutellum as in female. Propodeum (fig. 14) remarkably longer than in female, nearly as long as half its transverse diameter (8 : 8.5), lateral spine minute, as long as wide at basis, tip projecting dorsally. Sides of thorax with finer sculpture than in female. Tergites similar to those in female, but tergite 2 with more scattered, distinct and deep punctures (fig. 15), but sternite 2 with denser and deeper uniform punctures.

Holotype: ♀, "Khodzha-obo-gari S skl. Gissar xr. Nikolskaja, 29.vii.944", Tadžikskaja S.S.R., NW from Dušambe (Leningrad). — Allotype: ♂, "Khodzha-obi-gari S skl. Gissar xr. Nikolskaja 28.vii.944 (Leningrad). — Paratypes: 1 ♂ the same data as holotype (Budapest, Hym. Typ. No. 3705); 1 ♂, the same locality but 17.viii.1944 (coll. Nagy-Argaman); 1 ♂, "Kondara 1100 m. d. Varzob, Tadžk. Gussakovskij 19.vi.938", Tadžikskaja S.S.R., 30 km NW from Dušambe (Budapest, Hym. Typ. No. 3706).

I name this species in honour of the collector, the late outstanding chalcidologist M. N. Nikolskaja.

This species seems to represent a transitional form between the genera *Heterocoelia* and *Metrionotus*. It can be included in *Metrionotus* on the basis of the sculpture of the pronotum, but it was nevertheless placed in *Heterocoelia* because of features of the propodeum and the head, and also because of its relation to the closely related species *H. hungarica* (Kieffer, 1906) and *H. c. carceli* (Westwood, 1874).

The female is easy recognizable by the black head (except antennae, mouth parts and part of clypeus), by the thorax and abdomen as well as by the rather smooth, shining pronotum with few larger punctures in anterior half, which distinguishes it from all other *Heterocoelia* species.

The male differs from *H. hungarica* by the pronotum being not densely and coarsely punctured and tergite 2; it differs from *H. c. carceli* especially by the pronotum usually being without narrow and deep longitudinal sulcus and without rather dense and larger punctures, as well as by tergite 2, which has more scattered and distinct punctures with larger smooth polished interspaces, etc.

**Heterocoelia carceli carceli** (Westwood, 1874)

*Mesitius carceli* Westwood, 1874: 166, pl. 31 fig. 9 (♀).

*Heterocoelia carceli carceli*; Móczár, 1971: 306, 308, 314 (♀ ♂).

Specimens examined: 6 ♀, Sarepta, Krasnodarmejsk, Russian S.S.R., Bekker, 1866, 1867, 1868 (Leningrad) and 4 ♀, 1 ♂ with the same data (Budapest). — 1 ♂, Dorzaband m. Lenkoran Talish Mountains, Azerbaidzhan S.S.R., coll. Veltishchev 21—26.viii.1938 (Leningrad) and 1 ♂ with the same data (Budapest). — 1 ♀, M. San. Aután. Málaga, v.1946, Cobos Sauchex (Budapest).

Additionally this species has been reported from the following territories: Mediterranean coast and Austria (Kieffer, 1906), England (Westwood, 1874), the Netherlands (Hoffer, 1936), Yugoslavia, Hungary (Móczár, 1971), South Russian S.S.R. (Nagy, 1968), and "Orient." (Schulz, 1906).

**Heterocoelia carceli obscura** (Kieffer, 1906)

*Mesitius carceli* var. *obscurus* Kieffer, 1906: 411, 535, 545 (♂) (incorrectly attributed to Snellen van Vollenhoven).

*Mesitius carceli obscurus*; Kieffer, 1914: 303 (♂).

*Heterocoelia carceli carceli* var. *obscura*; Móczár, 1971: 308, 315 (♂).

The citation of Snellen van Vollenhoven, 1867 (Tijdschr. Ent. 10: 222) given by Kieffer (1904: 40) is incorrect, because neither in Snellen van Vollenhoven's paper (1867, p. 222-226[1]) nor in any of his other publications any trace of the name "*obscurus*" has been found. Consequently, I propose to accept the opinion of C. van Achterberg (in litt.) that Kieffer is the author of *obscurus*. The first reference by Kieffer was based on a male. Kieffer (1906: 411, 535) in his catalogue mentioned neither a date nor a locality, as he did for other species, which indicates that he had no printed source or specimen; perhaps he received a letter from Snellen van Vollenhoven near the end of his life, containing data on "*obscurus*". On the other hand, Kieffer (1914: 303) recorded this species from "Holland". In the Leiden collection there is an old la-

[1]) The single unnamed taxon really is a Proctotrupid, not a Bethylid, according to fig. 4 in Snellen Van Vollenhoven's paper of 1867.

bel, written by Snellen van Vollenhoven "*obscurus* Voll.". Unfortunately, the above four specimens were collected in Italy and not in "Holland", they are females and not males and clearly represent *Heterocoelia nagyi* Móczár, 1969, and not *H. carceli* (Westwood). After the information kindly supplied by C. van Achterberg no male specimens of *Mesitius carceli* were found in the collection, so the original material is considered to be lost.

In the collection of Budapest (Hung. Nat. Hist. Mus.) there is a male specimen, which perfectly corresponds to Kieffer's description of *carceli obscurus*, collected at the foot of the Mountain Alps "Köszeg, Méhely". I here designate this specimen as neotype (Hym. Typ. No. 3707 Mus. Budapest).

Kieffer's description can be supplemented as follows: frons and vertex differently punctured, latter only with superficial punctures, interspaces shagreened, hardly shining. Punctures of pronotum with sharper margins than in *carceli carceli* (Westwood). Tergite 2 slightly more densely punctured than in *carceli*, but not so deeply and densely as in *halidayi* (Westwood, 1874). Tergite 2 more extensively granulate basally than in *carceli*.

This subspecies is known from Hungary only.

### Heterocoelia nagyi (Móczár, 1969)

*Mesitius nagyi* Móczár, 1969: 373 (♀).
*Heterocoelia nagyi*; Móczár, 1971: 306, 307, 313 (♀♂).
*Heterocoelia nagyi*; Nagy, 1972: 14 (♂).

Specimens examined: 2 ♀, Piemont Asti, Gribodo (Leiden). 1 ♀, Italy, Gribodo (Leiden), 1 ♀, Pedem(onte), Gribodo (Leiden). 1 ♀, Borgomale, 25.vi.1982, Piemonte, Italia, leg. Pagliano (Torino). 1 ♀, S. Benedetto Belbo, 26.vii.1980, Langhe-Piemonte, leg. Pagliano (Budapest). 1 ♀, Paterna, Alpujarras (Alm.), J. Suárez (Budapest).

This species was reported before from: Corsica, Italy, France (Móczár, 1969), Greece (Móczár, 1971), Greece: Insel Ka (Nagy, 1972).

### Heterocoelia hispanica (Cameron, 1888)

*Epyris hispanicus* Cameron, 1888: 169 (♀).
*Mesitius hispanicus*; Kieffer, 1905: 111.
*Heterocoelia hispanica*; Móczár, 1971: 306, 317 (♀).

Specimens examined: 1 ♀, San Roque, Cádiz, J. Ramirez (Budapest). 1 ♀, Montejaque, Malaga, España, A. Pardo (Budapest).

This species was described from Gibraltar (Cameron, 1888). Further data are unreliable owing to erroneous synonymisation with *Mesitius carceli* Westwood (Kieffer, 1906).

With certainty known from Spain only.

### Heterocoelia nigriventris (Dahlbom, 1845)

*Cleptes nigriventris* Dahlbom, 1845: 1 (♀).
*Heterocoelia nigriventris*; Dahlbom, 1854: 22.
*Heterocoelia nigriventris*; Móczár, 1971: 306, 318 (♀).

Specimens examined: 1 ♀, Tanger, Morocco, 25—29.iv.1926, Lindberg (Helsinki). 1 ♀, Meknes, 570, 16.iv.1963 (Budapest).

This species was reported from North Africa (Dahlbom, 1845; Picard, 1932, etc.), and from the Mediterranean coast (Marshall, 1874; Nagy, 1968).

### Sulcomesitius capensis (Kieffer, 1911)

*Mesitius capensis* Kieffer, 1911: 455 (♀).
*Sulcomesitius capensis*; Móczár, 1970b: 411, 413, 426 (♀, ♂ nov.).

Specimens examined: 1 ♀, Grahamstown, 20.x.1970, S. Afr., leg. H. and M. Townes (Gainesville, Florida).

Known from South Africa only (Kieffer, 1911; Móczár, 1970b).

### Sulcomesitius consimilis Móczár, 1970

*Sulcomesitius consimilis* Móczár, 1970b: 411, 413, 430 (♀♂).

Specimen examined: 1 ♀, Hluhluwe Game Res., 13.xi.1970, S. Afr., leg. H. and M. Townes (Gainesville, Florida).

This species was reported from South Africa before (Móczár, 1970b).

### Sulcomesitius erdoesi Móczár, 1970

*Sulcomesitius erdoesi* Móczár, 1970b: 413, 429 (♂).

Specimen examined; 1 ♂, St. Lucia Estuary 15.xi.1970, S. Afr., leg. H. and M. Townes (Gainesville, Florida).

It was reported from South Africa (Móczár, 1970b).

### Sulcomesitius grahamensis sp. n. (figs. 18—23)

Female. — Length 5.8 mm. Head and thorax yellowish, partly darker red with blackish spots on upper side of antennae distally, on frons in-

cluding ocelli, on lower parts of head and on lateral areas of propodeum; legs brownish or, partly, lighter brownish red; abdomen black, segments dark reddish, translucent posteriorly. Wings rather short, reaching about the middle of tergite 2, fore wings dark brownish infuscated except base, tip and a rather broad transverse band outside of cells, veins dark brown, pterostigma yellowish brown. Body covered with sparse short white hairs, tergites without a tuft of short white hairs (fig. 23).

Head distinctly longer than broad (58 : 50), remarkably broadened behind eyes, sides straight and distinctly converging, corners rounded, occipital carina arched, margin narrowly impressed; ocelli in a sharp acute angle; hind ocelli separated from each other by a distance shorter than three-quarters of that from eyes, POL : OOL = 7 : 9, outer margins of ocelli with deep shining grooves; frontal sulcus very short, frons weakly shining with rather deep (fig. 18) and scattered punctures (compared to *S. masneri* Móczár, 1984), interspaces shagreened; eyes relatively larger, convex, longer than broad (21 : 18), separated from mandibles by a distance of about four-fifth length of eye (15 : 18); anterior margin of clypeus remarkably protruding and nearly straight with rounded corners laterally, surface raised longitudinally into a sharp, high keel medially. Antennae short, flagellar joints slightly thickened medially, antennal joints 1—3 slender (fig. 21), jount 3 longer than 2, 7 longer than 5—6 or 8—12, scape 2.5 times longer than broad, joints 2—3 about twice as long as broad, 4—12 broader than long, length (and breadth) proportions of antennal joints 1—13 = 20 (8): 8 (4.5): 10 (5): 5 (5.5): 4.5 (5.5): 4.5 (5.5): 5 (6): 4 (5): 4 (5): 4 (5): 4 (5): 4 (5): 7 (4).

Pronotum 1.2 times broader than long (34 : 28), anterior corners obtuse, sides nearly parallel, slightly concave anteriorly, diverging towards tegulae, posterior margin slightly emarginate and shallowly impressed, surface shagreened, nearly granulated with larger punctures than on head, longitudinal furrow remarkably deep and narrow. Mesonotum finely shagreened, hardly shining, with scattered punctures, parapsidal furrow and notaulices well-developed and sharply margined (fig. 19), longitudinal furrow shallow. Scutellum slightly impressed medially, moderately shining. Propodeum short, as long medially as half its transverse diameter before spine, lateral margins gradually diverging backwards (fig. 20), spines strongly acute (viewed from above and from the side), shorter than two-thirds length of propodeum (14 : 23). All carinae and areas well-developed, sublateral areas finely transversely wrinkled, sublateral carinae nearly straight, not bending before posterior margin of propodeum, because of this lateral area remarkably broader before spine than in *S. masneri*. Side of propodeum wrinkled diagonally also with a parallel longitudinal and stronger wrinkle below upper and along posterior margins, fusing at base of spine. Episternum coarsely sculptured with a rather deep and broad furrow transversely below tegulae.

Abdomen smooth, shining, tergite 1 polished, only with very scattered punctures, tergite 2 granulated on its basal third (fig. 23), with distinct, not deep and rather dense punctures medially and polished without any punctures on its posterior third, except for a very small finely alutaceous streak just along posterior margin, sides with fine denser punctures to posterior margin, except the broad polished and impunctate ventro-lateral margin on its whole length (fig. 22). Tergites 2—6 smooth, shining, partly alutaceous and partly with fine scattered punctures with semicircular impressions on posterior margins. Sternite 2 shining, deeper punctured only basally, more scattered medially and posteriorly.

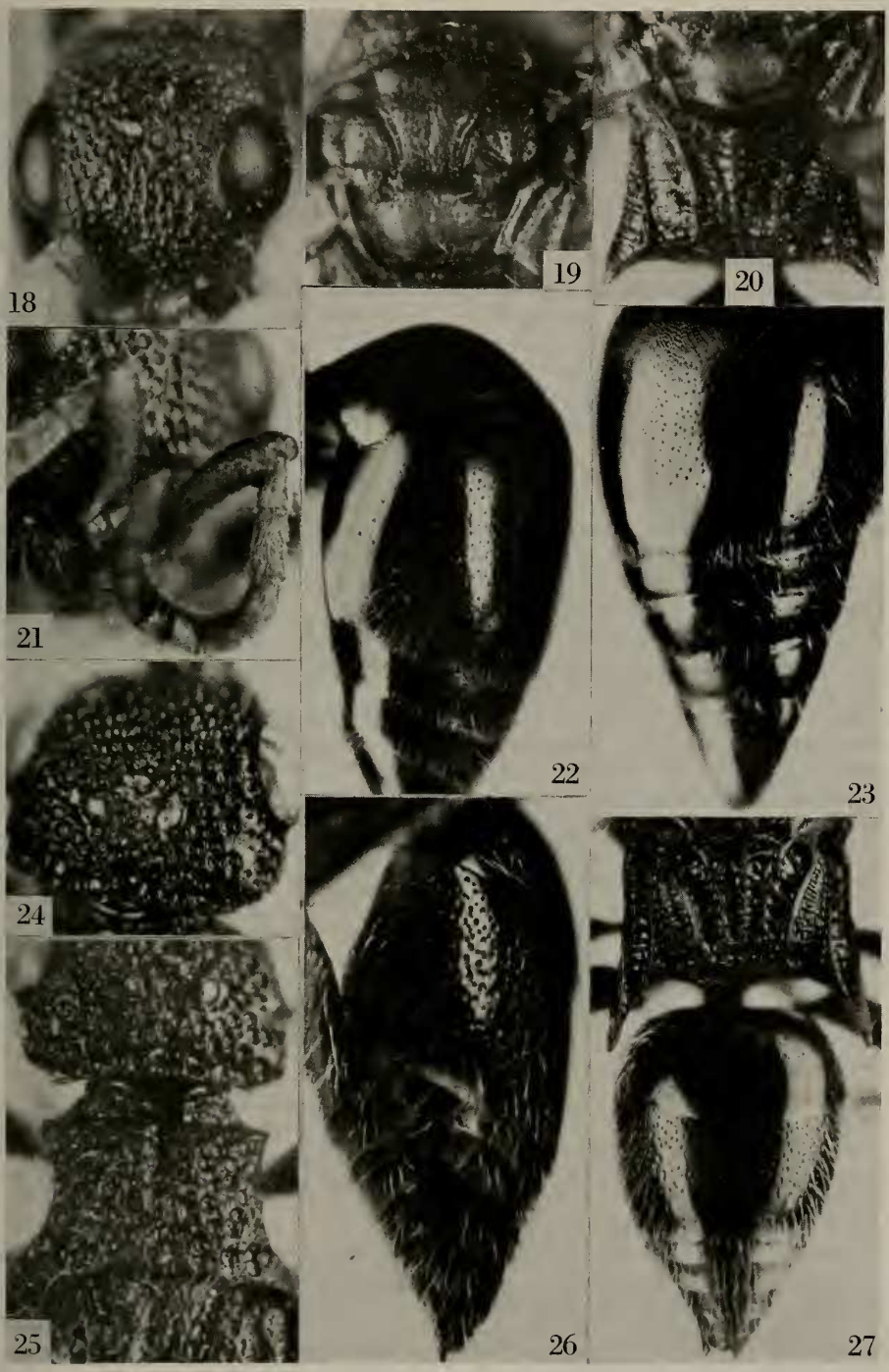
Male. — Unknown.

Holotype: ♀, "Grahamstown x-20-70 S. Afr. H. and M. Townes" (Gainesville, Florida).

This species is similar to *S. masneri* Móczár, 1984 (reported from Sri Lanka) but differs chiefly by tergite 2 being without dense and deep punctures medially and without small polished area postero-medially, by the deeper and more sparsely punctured head, by the shallow and not well margined longitudinal furrow of the mesonotum, by the antennal joints 2—3 being of different length, by the colour, etc.

### **Sulcomesitius zambiensis** sp. n.
(figs. 24—27)

Male. — Length 4.3 mm. Black, apical half of mandibles, hind tibiae partly on inner side, last tarsal joints partly, posterior margins of tergite 2—3, segments 4—7, brownish red, partly dark brown. Wings long, reaching to the posterior end of abdomen, fore wings distinctly blackish infuscated with broad lighter basis and a light band outside of cells, veins dark brown. Body sparsely covered with short, light hairs, antennae with very short brown proclinate hairs.




Figs. 18—23. *Sulcomesitius grahamensis* sp. n., ♀. 18, head in front; 19, mesonotum, scutellum; 20, propodeum; 21, antennal joints; 22, abdomen in lateral view; 23, abdomen. Figs. 24—27. *Sulcomesitius zambiensis* sp. n., ♂. 24, head, vertex; 25, posterior part of head, pronotum and mesonotum; 26, abdomen in lateral view; 27, propodeum and abdomen.